

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US03/34501

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : H01J 45/00  
US CL : 310/306

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 310/306, 310; 322/2R; 376/321

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
EPO, JPO, DERWENT, IBM TBD's, US-PGPUBS

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EAST

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,924,834 (DAVIS) 24 August 1999 (24.08.1999), Figs. 2-4.	1, 14-16
X	US 4,323,808 A (DAVIS) 06 April 1982 (06.04.1982), Fig. 1A.	1, 2
A	US 5,459,367 A (DAVIS) 17 October 1995 (17.10.1995) Fig. 3.	1, 19

Further documents are listed in the continuation of Box C.  See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent published on or after the international filing date
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"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step
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	document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 July 2004 (19.07.2004)	03 NOV 2004
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Thomas M. Dougherty Telephone No. (571) 272-2022